Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of bolometric detection of infrared radiation, comprising:

converting a change in temperature from heat produced by the infrared radiation into a change in resistivity of a thin layer of a sensitive material, and

detecting the infrared radiation by using ~~a~~ the sensitive material ~~in a thin layer~~, the sensitive material having a spinel ferrite structure of chemical composition, ignoring doping agents if any are present, satisfying empirical formula I:

(I) $Fe_{3-(x+y)}M_xA_yO_{4+\delta}$

in which iron is the majority metallic element;

M presents a metal or a combination of two or more transition metals other than iron;

A represents at least one metal selected from magnesium and aluminum;

the metals and the oxygen being in the form of ions;

x represents the number of metal ions M, whether identical or different metals;

y represents the number of metal ions A;

x may lie in the range 0 to 2, and whatever x, $x<3-x-y$,

y may lie in the range 0 to 0.5; and

δ represents 0 or a positive number that is sufficiently small for the substance of formula I to contain at least one metal present in the form of ions having two different oxidation states and situated on the same sublattice of the spinel structure.

2. (Currently Amended) The method according to claim 1, ~~in which~~ wherein M is a metal selected from Co, Cu, Mn, Zn, Ni, V, Cr, Mo, W, Ti, Zr, Hf, and rare earths,

presenting an ionic radius compatible with being integrated in the spinel structure, or a combination thereof.

3. (Currently Amended) The method according to claim 1, ~~in which~~ wherein M represents a metal selected from Co, Cu, Mn, Ni, Zn, and Ti, or a combination thereof.

4. (Currently Amended) A bolometric device for detecting infrared radiation or for infrared imaging, the device comprising at least one sensor provided with a sensitive element in the form of a thin layer, ~~layer as defined in any preceding claim~~

wherein the at least one sensor converts a change in temperature from heat produced by the infrared radiation into a change in resistivity of the sensitive element, and

wherein the sensitive element has a spinel ferrite structure of chemical composition, ignoring doping agents if any are present, satisfying empirical formula I:

(I) $Fe_{3-(x+y)}M_xA_yO_{4+\delta}$

in which iron is the majority metallic element;

M presents a metal or a combination of two or more transition metals other than iron;

A represents at least one metal selected from magnesium and aluminum;

the metals and the oxygen being in the form of ions;

x represents the number of metal ions M, whether identical or different metals;

y represents the number of metal ions A;

x may lie in the range 0 to 2, and whatever x, $x<3-x-y$,

y may lie in the range 0 to 0.5; and

δ represents 0 or a positive number that is sufficiently small for the substance of formula I to contain at least one metal present in the form of ions having two different oxidation states and situated on the same sublattice of the spinel structure.

5. (Currently Amended) A bolometric device according to claim 4, ~~in which~~ wherein said sensor, inserted in a packet including an inlet window that is transparent to

infrared, comprises a membrane ~~capable of absorbing~~ that absorbs infrared radiation and ~~of converting it~~ converts the infrared radiation into heat, said membrane being disposed in such a manner as to be ~~capable of being~~ exposed to incident infrared radiation that has passed through the inlet window, and in such a manner as to transmit a fraction of the heat ~~produced in this way~~ to said sensitive element.

6. (Previously Presented) A device according to claim 4, comprising a plurality of said sensors in the form of an array of pixels.

7. (Currently Amended) A device according to claim 6, ~~in which~~ wherein said array is connected to a CCD or CMOS matrix.

8. (Currently Amended) A method of detecting infrared radiation or of producing infrared imaging ~~with the help of~~ using a bolometric device, the method comprising: ~~capable of~~

absorbing incident radiation using the bolometric device, ~~of~~

converting ~~it~~ the incident radiation into heat, ~~and of~~ and

communicating a fraction of the heat produced to a sensitive element of resistivity that varies with temperature within the bolometric device, ~~in which said device is a device as defined in claim 4~~

wherein the bolometric device comprises at least one sensor provided with the sensitive element in the form of a thin layer, and

wherein the sensitive element has a spinel ferrite structure of chemical composition, ignoring doping agents if any are present, satisfying empirical formula I:

(I) $Fe_{3-(x+y)}M_xA_yO_{4+\delta}$

in which iron is the majority metallic element;

M presents a metal or a combination of two or more transition metals other than iron;

A represents at least one metal selected from magnesium and aluminum;

the metals and the oxygen being in the form of ions;

x represents the number of metal ions M, whether identical or different metals;

y represents the number of metal ions A;

x may lie in the range 0 to 2, and whatever x, $x<3-x-y$,

y may lie in the range 0 to 0.5; and

δ represents 0 or a positive number that is sufficiently small for the substance of formula I to contain at least one metal present in the form of ions having two different oxidation states and situated on the same sublattice of the spinel structure.

9. (Currently Amended) The method according to claim 2, ~~in which~~ wherein M represents a metal selected from Co, Cu, Mn, Ni, Zn, and Ti, or a combination thereof.

10. (Previously Presented) A device according to claim 5, comprising a plurality of said sensors in the form of an array of pixels.

11. (Currently Amended) A device according to claim 10, ~~in which~~ wherein said array is connected to a CCD or CMOS matrix.

12. (Currently Amended) ~~A method~~ The method of detecting infrared radiation or of producing infrared imaging according to claim 8, ~~with the help of a bolometric device capable of absorbing incident radiation, of converting it into heat, and of communicating a fraction of the heat produced to a sensitive element of resistivity that varies with temperature, in which said device is a device as defined in claim 5.~~ wherein the sensor, inserted in a packet including an inlet window that is transparent to infrared, comprises a membrane that absorbs infrared radiation and converts the infrared radiation into heat, said membrane being disposed in such a manner as to be exposed to incident infrared radiation that has passed through the inlet window, in such a manner as to transmit a fraction of the heat to said sensitive element.

13. (Currently Amended) The method ~~A method~~ of detecting infrared radiation or of producing infrared imaging according to claim 8, ~~with the help of a bolometric device~~

~~capable of absorbing incident radiation, of converting it into heat, and of communicating a fraction of the heat produced to a sensitive element of resistivity that varies with temperature, in which said device is a device as defined in claim 6.~~wherein the bolometric device comprises a plurality of sensors in the form of an array of pixels.

14. (Currently Amended) The method ~~A method~~ of detecting infrared radiation or of producing infrared imaging according to claim 12, ~~with the help of a bolometric device capable of absorbing incident radiation, of converting it into heat, and of communicating a fraction of the heat produced to a sensitive element of resistivity that varies with temperature, in which said device is a device as defined in claim 10.~~wherein the bolometric device comprises a plurality of sensors in the form of an array of pixels.

15. (Currently Amended) The method ~~A method~~ of detecting infrared radiation or of producing infrared imaging according to claim 13, ~~with the help of a bolometric device capable of absorbing incident radiation, of converting it into heat, and of communicating a fraction of the heat produced to a sensitive element of resistivity that varies with temperature, in which said device is a device as defined in claim 7.~~wherein the array is connected to a CCD or CMOS matrix.

16. (Currently Amended) The method ~~A method~~ of detecting infrared radiation or of producing infrared imaging according to claim 14, ~~with the help of a bolometric device capable of absorbing incident radiation, of converting it into heat, and of communicating a fraction of the heat produced to a sensitive element of resistivity that varies with temperature, in which said device is a device as defined in claim 11.~~wherein the array is connected to a CCD or CMOS matrix.